

Specialized Training Course Guidance

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I. Introduction

Specialized training courses are a requirement to take the water treatment and distribution exams above the Grade 1 level. The number of courses required increases with the level of certification according to sections 63775 and 63780 of the Operator Certification regulations. The specialized training requirements can be divided into two categories, the “primary” course and “supplemental” courses. The primary course required for the water treatment exam is “Drinking Water Treatment”. The primary course required for the distribution exam is “Water Supply Principles”. The supplemental courses can be in drinking water or wastewater quality, drinking water or wastewater treatment, drinking water distribution, or drinking water or wastewater facility operation.

II. Specialized Training Requirements

Specialized Training Requirements for taking the Water Treatment Exams

- T2** - Successfully completed at least one course of specialized training covering the fundamentals of drinking water treatment.
- T3** - Successfully completed a total of at least two courses of specialized training that includes at least one course covering the fundamentals of drinking water treatment.
- T4** - Successfully completed at least three courses of specialized training that includes at least two courses in drinking water treatment.
- T5** - Successfully completed at least four courses of specialized training that includes at least two courses in drinking water treatment.

Specialized Training Requirements for taking the Distribution Exams.

- D2** - Successfully completed a total of at least one course of specialized training in water supply principles.
- D3** - Successfully completed a total of at least two courses of specialized training that includes at least one course in water supply principles.
- D4** - Successfully completed at least three courses of specialized training that includes at least two courses in water supply principles.
- D5** – Successfully completed at least four courses of specialized training that includes at least two courses in water supply principles

III. Qualifying a Specialized Training Course

There are three basic requirements that a course must meet in order to be accepted as a Specialized Training course for the purposes of taking an exam.

1. The course must be offered by an accredited academic institution or IACET provider.

Section 63750.10 defines an “accredited academic institution” as an academic institution accredited by the Western Association of Schools and Colleges or an accrediting organization recognized by the Council of Post Secondary Education. Their Website is www.wascweb.org. Most community colleges and universities are accredited academic institutions. If you are not sure about a specific college ask the instructor or college administration about the institutions’ accreditation status.

IACET stands for International Association for Continuing Education and Training. Their website is www.iacet.org. Training companies or industry organizations that are not primarily colleges can offer specialized training courses if they become an IACET provider.

Courses offered by commercial training companies that were acceptable before the new regulations may not be acceptable now. Check with your training provider to ensure they meet one of these criteria.

2. The course must include a minimum of 36 contact hours of instruction. The regulations require that each class consist of a minimum of 36 contact hours. Most courses are not presented in “contact hours” but in college units or CEU’s, (Continuing Education Units). The number of contact hours per unit can vary among colleges and training providers but generally the following conversions will apply.

1 CEU = 10 contact hours
3 quarter units = 30 contact hours
3 semester units = 45 contact hours.

For specific information about a course you are considering check with your instructor.

3. A course should meet the subject matter criteria set forth in this document for a “Drinking Water Treatment”, “Water Supply Principles”, or a supplemental course.

The specialized training requirements can be divided into two categories, the “primary” course and “supplemental” courses. The primary course required for the water treatment exam is “Drinking Water Treatment”. The primary course required for the distribution exam is “Water Supply Principles”. The supplemental courses can be in drinking water or waste water quality, drinking water or waste water treatment, drinking water distribution, or drinking water or waste water facility operation.

IV. Drinking Water Treatment Course

Primary course required for taking the Water Treatment Exam

An applicant needs one “Fundamentals of Drinking Water Treatment” course to take the T2 or T3 exam and at least two “Drinking Water Treatment” courses to take the T4 or T5 exam. A “Fundamentals of Drinking Water Treatment” course is designed to teach the basic concepts of potable water treatment. This course should include the following subject matter ;

Fundamental Drinking Water Treatment

Water sources and sanitary hazards,
Water quality monitoring and sampling,
Regulations, record keeping and reporting
Disinfection,
Water mathematics,
Safety,
Equipment maintenance,
Basic water chemistry,
Coagulation/flocculation/sedimentation,
Filtration,
Lab analysis and interpretation,
Microbiology,
Pre-treatment and watershed management,
Instrumentation,
Pumps and motors,
Back flow/ cross connection control

A second course in “Drinking Water Treatment” can include more advanced subject matter as long as it is specific to drinking water treatment such as the following;

Safe Drinking Water Act,
Surface Water Treatment Rule,
Ion Exchange,
Water Softening,
Advanced Lab Techniques,
Corrosion control,
Fluoridation,
Desalination,
Iron and Manganese removal,
Biological contaminants,
Reverse Osmosis,
Filtration,
Emergency Response,
Organic Contaminants,
CT Values,
Demineralization,

Water Chemistry,
Taste and Odor control,
Nitrification

Most courses that include these topics are titled “Water Treatment” or “Drinking Water Treatment”. Wastewater treatment or wastewater/drinking water combined courses are generally not acceptable.

V. Water Supply Principles Course

Primary course required for taking the Distribution Exam

An applicant needs one “Water Supply Principles” course to take the D2 or D3 exam and at least two “Water Supply Principles” courses to take the D4 or D5 exam. A “Water Supply Principles” course is designed to teach the basic concepts of potable water supply and distribution. A comprehensive course should include the following subject matter ;

Water sources,
Water quality and sampling,
Regulations,
Disinfection practices,
Water math,
Safety,
Distribution System design/maintenance/repair,
Storage Facilities,
Hydraulics,
Pumps and motors,
Instrumentation and control,
Back flow/ cross connection control
Water piping
Water valves

Most but not all courses that include these topics are titled Distribution or Drinking Water Treatment. The subject matter covered in a Water Supply Principles course is also covered in a Water Treatment course so a Water Treatment course can be used to meet the Water Supply Principles requirement. A Distribution or other Water Supply Principles course may not be acceptable as a Water Treatment course because it might lack some of the key subject matter such as filtration, flocculation, coagulation, and sedimentation.

Supplemental courses

The subject matter of a course that is acceptable for specialized training other than the Water Treatment or Water Supply Principles requirements can be in drinking water or waste water quality, drinking water or waste water treatment, drinking water distribution, or drinking water or waste water facility operation. These courses do not have to

specifically address drinking water treatment or distribution. Courses that are narrow in scope but cover one or two of the subjects listed under a Water Treatment or Water Supply Principles course can be acceptable as a supplemental course. Some examples of this are Backflow Prevention, Cross-Connection Control, and Waterworks Mathematics. Other courses that cover a general concept but are not specific to potable water can also count as a supplemental course. Some examples of these courses are Fluid Mechanics, Hydraulics, and Hydrogeology. These courses are usually taken as part of a college curriculum leading to a degree. Any course acceptable as a Water Treatment, or Water Supply Principles course will also be acceptable as a supplemental course. Wastewater courses are acceptable as supplemental courses.

VII. Miscellaneous Guidance

1. Courses taken previously are acceptable.

Continuing education must be taken between renewal periods but specialized training courses taken in the past may be used to fulfill the specialized training requirements. The course must still meet all the specialized training course requirements listed above and it must be verifiable by this office.

2. A course an operator takes to satisfy the educational requirements for one exam could be used for other exams.

If an operator takes a course in Water Treatment to meet the T2 exam requirements and DHS accepts that course the operator can also use it to retake the T2 exam, take a higher-grade treatment exam, or take a distribution exam.

3. If DHS accepted a course under the previous regulations from an operator to take a treatment exam, that course for that operator is acceptable under the new regulations.

This means that if changes in the new regulations cause a previously offered course to be unacceptable, (provider not an IACET approved or not enough contact hours), that course will continue to be acceptable for that specific operator. If another operator takes that course after January 1, 2001 it will not be acceptable if it doesn't meet all of the specialized training criteria.

4. A specialized training course can be used for continuing education but a continuing education course cannot necessarily be used for specialized training.

Specialized training is held to a higher standard. The educational provider must be an accredited academic institution or IACET provider and there is a minimum of 36 contact hours requirement for specialized training courses. These requirements do not apply to continuing education.

5. Courses cannot be combined to meet the 36 contact hour requirement.

6. **A course that offers more than 36 contact hours will not be counted as more than one course.**

Several courses require more than 36 contact hours to complete. If it contains 72 contact hours or more it will not be given credit for two courses.

VIII. Related Regulation Language and Definitions

Section 63750.75. Specialized Training.

“Specialized training” means college level courses providing at least 36 contact hours of training each in drinking water or waste water quality, drinking water or waste water treatment, drinking water distribution, or drinking water or waste water facility operation, offered by an accredited academic institution or an organization either accredited by the International Association of Continuing Education Training (IACET) or an authorized provider of IACET, or courses completed and deemed acceptable by the Department prior to January 1, 2001 for the purpose of operator certification.